

## SECURE DIGITAL VIDEO DISK AND PLAYER

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ABSTRACT

5 A method for recording data on an optical medium is disclosed. In one embodiment, the method includes receiving main data from a data source, determining a plurality of data frame values in response to the main data, inverting at least one selected bit in at least one of the data frame values to generate a plurality of encoded data frames, scrambling the encoded data frames by a feedback shift register to generate scrambled data frames, generating ECC values in response to the scrambled data frames, adding the ECC values to the scrambled data frames to generate an ECC block, rearranging the ECC block to generate a plurality of recording frames, encoding the recording frames by an eight-to-sixteen modulation (ESM) encoder to generate code words, adding sync values to the code words to generate a plurality of physical sectors, and recording the physical sectors on the optical medium. A complementary method for reading and decoding data from an optical medium is also disclosed. These complementary encoding and decoding schemes provide a method for creating and reading proprietary format DVDs which may not be read or copied by conventional DVD players. These encoding and decoding schemes result from relatively minor modifications to existing DVD standards, allowing many standard system components to be used and thereby making the encoding/decoding system relatively easy and inexpensive to implement.

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